A TWO QUEEN METHOD USED IN COMMERCIAL OPERATIONS

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Two queen systems are perhaps generally thought of as being used in small to medium size production units mainly due to the extra labor involved. Such a system like any other, may or may not be practicable or profitable in all areas or to all production units for a number of reasons. This article is not intended to infer that it is the only system, that it is fool proof or that it can be used in all areas. Any attempt at using such a system should be done on a small scale until it can be reasonably perfected to fit a particular unit and this may require a number of years of experimenting since conditions vary considerably from one area to another as well as within the area usually covered in the normal operation of a 1,500 to 2,000 colony outfit. This does not preclude its use in much smaller units but this article will attempt to point ou possibilities of adoption to larger units and the particular method we use which is a combination of many previously written up by Dr. Farrar, Dr. Dunham and others.

The operation of 1,500 or 1,600 two queen units (plus 500 or 600 packages and/or divisions) presents serious problems which we have not entirely solved to our own complete satisfaction due to the matter of timing of specific points in the system, mainly in making them up since this is the most critical and is the most time consuming. Even with these problems the overall picture has been very good and we would be very reluctant to go back to a single queen system particularly in this area where it is not uncommon to have as much as 60% supersedure just preceding the start of the major flow.

Our purpose in using a two queen method is to obtain maximum production from a high percentage of colonies and to eliminate non surplus producers.

The first part is the preparation of the brood chamber for the two queen unit. This is done in December and January. Ten frame equipment is used and a total of three brood chambers are involved. Two used for wintering with the third one added at the proper time as outlined in step 5. The two queen brood chamber as prepared in the winter months will contain 9 combs with at least one frame of honey (preferably 2), 1 frame pollen and a division board feeder. The honey and pollen may be either full or part combs.

Step 1 – Early March or 4 to 6 weeks ahead of natural pollen flow:

A. Feed pollen substitute cakes (preferably made with honey and 10 to 20% natural pollen).

B. Check feed supply.

C. Shake out and close up all dead colonies to prevent robbing. We cannot feed all of them pollen cakes so those which have only late pollen sources and historically are short of pollen are fed first. The others will be fed pollen substitute cakes when we unpack, if natural pollen is not yet available.

Step 2 – Ten days to two weeks later:

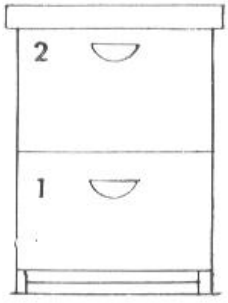
A. Replenish pollen cakes.

B. Check feed supply.

C. Mark queenless colonies or requeen with shipped in queens if available or unite with queenright colony or shake them out – dependent on their strength and other conditions.

Step 3 – Early April or 30 days in advance of dandelion or first major build up flow:

A. Unpack, check brood, eliminate or requeen drone layers and defective queens, close top entrances.



Two storey overwintered colony ready to make up two queen unit

B. Boost weaker colonies with brood and bees from above average strength colonies or if not available cut weak colonies to single storey.

C. Feed drugs for prevention of disease.

Step 4 – As soon as unpacking is completed:

A. Thorough inspection for diseases, quality and quantity of brood and queen as well as feed. Some will require requeening and feed should be amply provided at all times.

B. Those previously reduced to a single storey should be ready to let up into the second storey again or if not may be boosted with brood and bees to a satisfactory level.

C. Feed drugs.

Step 5 – Make up two queen units – at beginning of dandelion or first major build up flow. Colonies should at this stage have 6 to 7 well filled frames of brood in all stages. The overwintered portion will be left with brood in 5 frames.

A. Find queen.

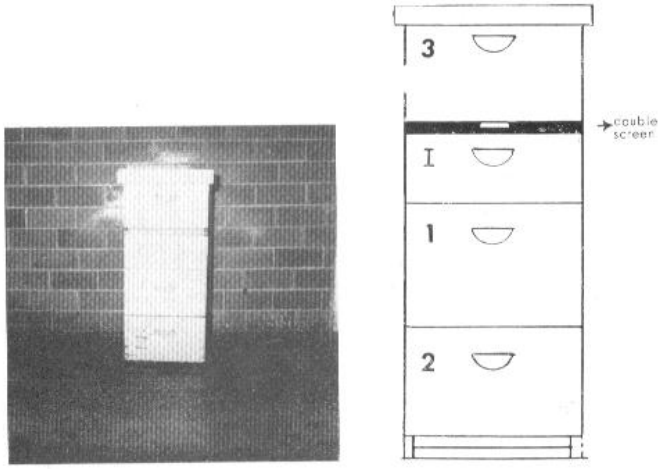
B. Put two or three frames of brood (if made up early in build up flow two is most desirable) in two queen unit one of which should be sealed and the other mostly open brood with all adhering bees.

C. If there is a good nectar and pollen flow and the parent hive had adequate supplies give the two queen unit one frame of new nectar and pollen.

D. Shake adhering bees from three more frames into the unit.

E. Place shallow super of preferably dark combs on top of parent colony, then double screen two queen unit with queen in mailing cage on top bars over the brood with 16 penny nail holes punches in candy and fill diversion board feeder (half full is enough if flow is good). Plug entrance in screen loosely with green grass. Shallow super may be omitted if you can return in less than 15 days.

Step 5 – A. Alternate method of make up: We use this toward the end of our make up process when colonies are much more populous, may have had a shallow super added to hold the dandelion flow if good and queens are more difficult to find. Earlier we can make them up just as fast and eliminate an extra trip to the yard by finding the queen and completing the units in one step.



Same colony after making two queen unit. Brood chambers of parent colony reversed. Double screen with entrance same direction as parent colony. Screen entrance lightly plugged with grass.

A. Shake all bees off two or three frames of brood and provide new honey and pollen as in step 5. Also add the shallow super but use a queen excluder in place of the screen. The next day and not more than 24 hours after make up, remove excluder, replacing it with the screen plugging entrance loosely with green grass.

Both methods of make up require absolutely bee tight equipment and robbing can not be tolerated.

Step 6 – Check in 7 to 25 days or as soon as completing your make up:

A. Requeen and boost those not accepting queen, drone layers or otherwise defective queens. Remove feeders.

B. Reverse brood chambers on parent unit, add two more shallow supers on parent and one on two queen unit (these preferably should be light colored combs). Bottom units are tipped over backward to speed work.

Step 7 – Check again for room in 10 to 15 days depending on flow.

Step 8 – Uniting units.

A. When major flow is well started, two queen unit should have its shallow at least 2/3 full of honey and have its own brood emerging.

Final arrangement of supers is shown in No. 4.

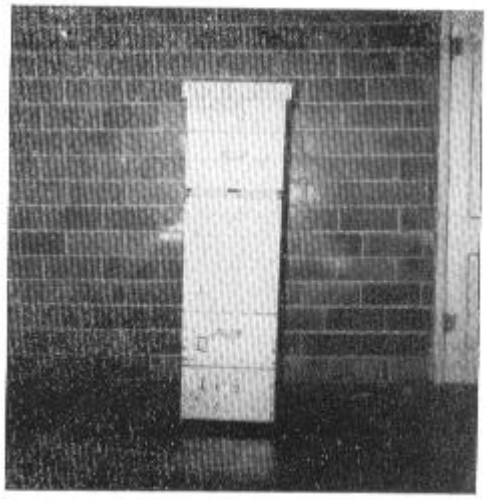
Newspaper is used for uniting as a precaution against bad weather, poor flow day etc., with 2 or 3 long slits ripped in it with a hive tool.

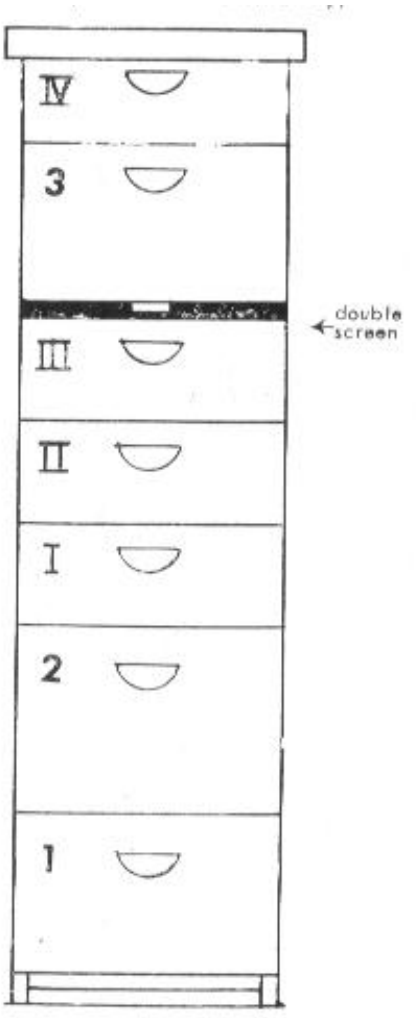
Step 9 – Check again for room in not more than 14 days depending on intensity of flow. You now have a tremendous working force which will fill supers unbelievably fast if conditions are favorable.

In making up the units it is our aim to equalize the parent colonies in the process. A colony that is below average strength may have no brood or only one frame taken away, drawing the rest from those that are above average or bees may be provided from other colonies. It is also our aim to have every colony a maximum surplus producing colony. It costs just as much and sometimes more to operate a non-producing colony as one that may produce up to 300 pounds surplus.

In every method of operation there are both advantages and disadvantages which are enumerated below as we see them.

One big factor in our operation which is most beneficial is that we have a neighbor beekeeper who operates nearly entirely with package bees. He needs help installing them so our crew helps him with that and in return his crew helps us in the uniting procedure.





Colony after first check of two queen unit with two shallows added to parent and one to two queen unit.

Advantages:

A. Queens used are reared in the south at the peak of their flow and are usually the very best obtainable.

B. Colonies are automatically equalized in make up procedure.

C. Build up of top unit is very fast. (7 or 8 full frames of brood are not uncommon 25 days after make up).

D. Obtain optimum number of bees for maximum production with swarming and supersedure loss usually eliminated.

E. Eliminates non surplus producing colonies.

F. Provides basis for colonies to be in top condition for winter.

G. Automatic requeening of parent colony.

H. Production increased by a minimum of 40 pounds and usually by more than a hundred. (This area).

I. Two queen unit may be used to requeen where necessary and a limited number may be set off for increase without decreasing production.

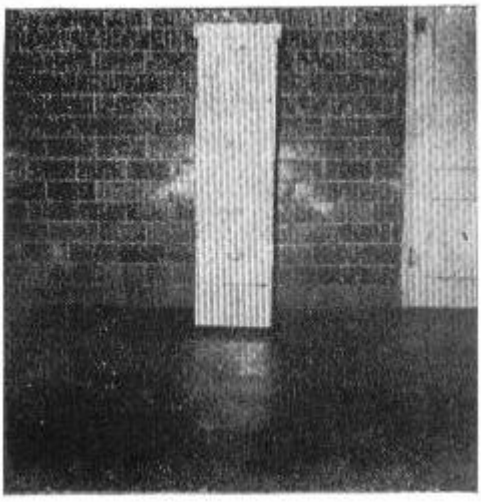
J. Queen acceptance is good – from 88 to 96% (This over a ten year period).

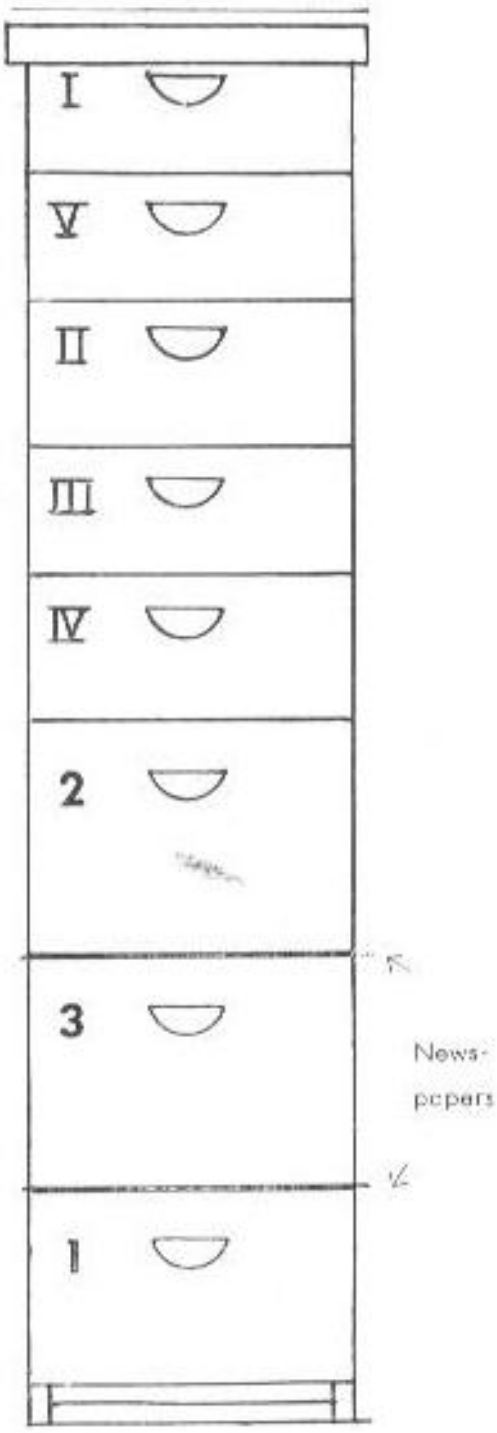
Disadvantages:

A. More labor is required although after a system is developed it is not as great it appears.

B. Proper timing for maximum results is more difficult particularly in larger operations with limited help.

C. Tall colonies which result are more difficult to keep from tipping over.





After two queen unit has been united with parent colony – newspaper under and on top of two queen unit and one more shallow added. Note arrangement of shallows with the No. 1 (dark comb) way on top.

Note: Photos and diagrams by F.Q. Bunch.